European honeysuckle. Dr. Hale's Louisiana specimen, in Herb. Torr., I must suppose to be the European species. No other specimens purporting to be indigenous are known to me. Is there really an indigenous species of this sort? As Darlington cites *Lonicera Virginiana*, Marshall, Arbust., as a synonym of *L. grata*, and as Marshall, who lived in Darlington's district, assigns no particular habitat for his species, one may suppose that he had in view a wild species of his own region. But if so he would hardly have named it *L. Virginiana*; and his description answers rather to *L. sempervirens*, the flowers "having long scarlet tubes with short borders." We get no more satisfaction by referring to the original sources of the species. It was founded, in the Hortus Kewensis, on *Periclymenum Americanum* of Miller's Dictionary. Miller merely says it is from America. Pursh would seem to have known all about it. He says: "On the mountains, rambling among rocks, in shady, moist situations, New York to Carolina; rare." But in such matters Pursh is not to be trusted. Can any American botanist throw further light upon the matter?

ASA GRAY.

Magnolia glauca, L., on Long Island.—This tree, reported in the N. Y. State Flora as occurring on Long Island, and which has hitherto eluded the search of recent explorers, including the authors of the Catalogue of the Plants of Suffolk Co., has been found by Mr. Robert W. Newbery, of this city, growing spontaneously on both sides of the L. I. Railroad culvert at Tuttle's Pond, a short distance east of Speonk Station, Suffolk Co.

Brooklyn, N. Y. W. H. RUDKIN.

Botanical Notes.

Diospyros Kaki.—According to J. Ishikana, in a paper on the materials containing tannin used in Japan, a remarkable liquid, called "kaki-no-shibu," prepared from the astringent fruits of the persimmon (*Diospyros Kaki*), is used for giving strength and durability to paper, which is applied to many more uses in Japan than in other countries. This property appears to be due to the deposit from the film of liquid, with which the paper is covered, possessing somewhat of the character of lacquer. while the tannin acts as an antiseptic. The film formed by this liquid on materials coated with or immersed in it is almost insoluble in water or alcohol and is not perceptibly attacked by boiling with dilute sulphuric acid. The kaki-no-shibu is prepared from the fruits gathered early in the summer and beaten in stone mortars. The mass, transferred to wooden tubs, is covered with water for half a day, and then filtered through a straw bag. The liquid so prepared is a milky fluid of a light or dark grey color and evidently holds minute particles of solid matter in suspension.

The Development of Chlorophyll.—In recent works published by Messrs. Schimper and A. Meyer on the development of chlorophyll and color-bearing granules of plants, it is stated that instead of these bodies being formed free in the protoplasm of the cell, as hitherto

supposed, they arise from distinct structures or "plastidia" present in the young cell from its earliest existence, and that any pigment, starch grains, etc., found in connection with the structure named arise by later changes produced by continuous growth and division of the few minute plastidia foun in the young cells. Those which are deeply seated and not as yet colored are called by Schimper "leucoplastidia"; those which are nearer the light and in which a green coloring matter is developed, "chloroplastidia;" and those which in dividing give rise to needle- or spindle-shaped bodies or triangular ones with sharply pointed corners, and pass through various shades from green to carmine-red, he calls "chromoplastidia." These forms appear to be due to the crystallization of certain of the proteid contents of the plastidia. All the plastidia of the stem and leaves appear to rise by division of the plastidia in the *punctum vegetationis* of the young stem, and those of the root from the division and differentiation of those of the *punctum vegetationis* of the radicle. As they are found at a very early age of the embryo, even when only eight cells old, as in *Linum Austriacum*, Schimper thinks it probable that they arise from primitive plastidia in the oosphere. Starch grains may arise from the leucoplastidia, also, at a very early stage, as they may be observed in the oosphere. The Characeæ would seem to be the earliest plants in which all three forms of these bodies occur, the apical cells containing leucoplastidia, and the antheridia owing their color to chromoplastidia.

Botanical Literature.

Sylloge Fungorum omnium hucusque cognitorum. By P. A. Saccardo.

The second volume of this work is now issued. It contains 813 pages, besides 69 pages of Addenda, carrying the number of species up to 6,180, which is supposed to include all the Pyrenomycetes thus far known. At the end this volume there is an alphabetical index of all the specific names in the two volumes; the generic name being added in parenthesis after each specific name.

Whatever may be thought of the many new genera into which the old genus *Sphæria* is here divided, there can be but one opinion as to the practical value of the work, which should be in the hands of every thorough student of mycology. Vol. iii., describing the "imperfect" fungi, will appear next year.—J. B. E.

Contributions to American Botany. XI. By Sereno Watson. 8vo, pp. 100. (From the *Proceedings* of Amer. Acad. of Arts and Sciences. Vol. xviii).

This instalment of Mr. Watson's Contributions to American Botany, issued on the 15th inst., contains: (1) List of Plants from South-western Texas and Northern Mexico, collected chiefly by Dr. E. Palmer in 1879–80; Gamopetatalæ to Acotyledones; and (2) Descriptions of some new Western species (*Greggia linearifolia, Sagina crassicaulis, Montia Howellii, Astragalus Matthewsii, A. Wingatanus, A. hypoxylus, Spiræa occidentalis, Ribes ambiguum, Sedum radiatum, Gayophytum pumilum, Eryngium discolor, Sucæda minutiflora, Eriogonum Shockleyi, E. Havardi, Euphorbia Plummeræ, Microstylis purpurea, M. corymbosa, Allium Plummeræ* and *Bouteloua Texana.*)